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REMARKS

Claims 1-23 are currently pending of which claims 21-23 were previously withdrawn. Claims 1, 13, and 17 are independent. Claims 13 and 14 are amended for clarity. Reconsideration of the action mailed August 17, 2006, is requested in light of the foregoing amendments and the following remarks.

The Examiner rejected claims 1-4, 7-13, and 15-20 under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Patent No. 6,694,273 ("Kurooka"). The Examiner rejected claim 5 under 35 U.S.C. § 103(a) as allegedly unpatentable over Kurooka in view of U.S. Patent Application Publication No. 2004/0086274 ("Wan"). The Examiner rejected claim 6 under 35 U.S.C. § 103(a) as allegedly unpatentable over Kurooka and Wan in view of U.S. Patent No. 5,822,094 ("O'Sullivan"). Applicant traverses the rejections.

The Examiner has noted that claim 14 is objectionable as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant appreciates the Examiner's identification of allowable subject matter in claim 14.

Section 103 Rejections

Claim 1 stands rejected over Kurooka. Claim 1 is directed to a communications device that includes an optical domain adaptive dispersion compensation module ("OADCM") coupled to an electrical domain adaptive distortion compensation module ("EADCM"). The OADCM is operable to apply a first dispersion compensation to a received signal having a plurality of wavelengths and the EADCM is operable to apply a second dispersion compensation to the received signal. The communications device also includes a controller coupled to both the OADCM and the EADCM. The controller is operable to selectively control a level of the first and the second dispersion compensation to be applied to the received signal.

The Examiner states that Kurooka discloses the claimed EADCM as equalization amplifier 5 in FIG. 18. Applicant respectfully disagrees. Kurooka's FIG. 18 illustrates an optical receiving apparatus for use in a wavelength division multiplexing transmission system. A received optical signal is first compensated for chromatic dispersion using a variable dispersion

compensator (which the Examiner states is equivalent to Applicant's OADCM). *See* FIG. 18; col. 23, lines 46-51; col. 25, lines 18-21. The optical signal is demultiplexed into individual wavelength signals. *See* FIG. 18 element 31; col. 23, lines 50-55. A second dispersion compensation is then applied using an equalization amplifier (which the Examiner states is equivalent to Applicant's EADCM) to each individual wavelength signal in a respective optical receiving section. *See* FIG. 18; col. 24, lines 39-63.

Claim 1 recites that the EADCM applies a second dispersion compensation to the received signal. The received signal includes a plurality of wavelengths. However, as shown in FIG. 18 of Kurooka, each equalization amplifier only applies dispersion compensation to a signal having a single wavelength. Therefore, the equalization amplifier does not apply dispersion compensation to the received signal, only to a component of the received signal. The cited portion of Kurooka does not disclose or suggest an OADCM that applies a first dispersion compensation to a received signal having a plurality of wavelengths and an EADCM that applies a second dispersion compensation to the received signal having a plurality of wavelengths.

Claim 1 also recites a controller operable to selectively control a level of the first and the second dispersion compensation to be applied to the received signal. The Examiner states that Kurooka does not disclose such a controller. However, the Examiner states that it would be obvious to combine the controller 35 and control circuit 9 of FIG. 18 into a single controller as it would reduce the number of controllers, thereby reducing system cost. Applicant respectfully disagrees.

The controller 35 receives an input signal from the optical receiving section. The input signal provides data regarding the dispersion of the signal following operations performed by the equalization amplifier (*i.e.*, an output signal following both dispersion compensation processes). *See* FIG. 18; col. 24, lines 1-13. The controller 35 can then adjust the compensation provided by the variable dispersion compensator. *See* FIG. 18, col. 24, lines 10-33. FIG. 18 also includes a separate control circuit 9 for controlling a particular equalization amplifier 5. *See* FIG. 18, col. 24, lines 46-64.

Reducing the system of Kurooka as shown in FIG. 18 would require more than combining controller 35 with a control circuit 9. The system of FIG. 18 includes an equalization amplifier for each demuliplexed wavelength. Therefore, there is a separate control circuit for each equalization amplifier. As a result, a single controller would need to control the variable dispersion compensator along with every equalization amplifier. In Kurooka, there are separate controls because of the separate equalization amplifiers in each optical receiving section. Additionally, each control circuit receives input from other components within the particular receiving section. There is no disclosure or suggestion to combine the control circuits for each individual receiving section into a single controller that would be able to provide the same functions as the structure shown in FIG. 18.

Applicant respectfully submits that claim 1, as well as claims 2-12, which depend from claim 1, are in condition for allowance.

Claim 4 stands rejected as unpatentable over Kurooka. Claim 4 is directed to a communications device where the controller controls the EADCM based on feed forward information provided to the controller from the OADCM. The Examiner again cites the controller 35 of FIG. 18 as disclosing the controller of claim 4. Applicant respectfully disagrees.

As discussed above, the controller 35 of FIG. 18 receives as input data the output of the equalization amplifier and as a result provides control adjustments to the variable dispersion compensator. *See* col. 24, lines 25-32. However, in order to provide the features of claim 4, the controller 35 would need to receive input data from the variable dispersion compensator and use that information to control the equalization amplifier, which is the opposite operation of what is disclosed by Kurooka. Additionally, the Examiner failed to address Applicant previous arguments regarding claim 4. Kurooka does not disclose or suggest a controller which receives any input from the variable dispersion compensator. For at least these additional reasons, claim 4 is in condition for allowance.

Claim 13 stands rejected as unpatentable over Kurooka. Claim 13, as amended, is directed to an EADCM that includes a multi-phase eye quality monitor and an equalizer circuit operable to perform dispersion compensation. The multi-phase eye quality monitor is operable

to provide signal distortion measurements of an incoming electrical signal received at the EADCM. Kurooka does not disclose or suggest an electrical domain distortion compensation module that includes a multi-phase eye quality monitor and an equalizer circuit operable to perform dispersion compensation.

The Examiner states that Kurooka discloses the claimed EADCM in FIG. 18 (referring to the equalization amplifier and suggesting that it has a multi-phase eye quality monitor and equalization circuit). Applicant respectfully disagrees. The Examiner states that an equalization amplified waveform monitor component in FIG. 18 is the claimed multi-phase eye quality monitor and equalization circuit. However, this component is not a component of the equalization amplifier. *See* FIG. 18 elements 5 and 8; col. 11, lines 9-12. Kurooka does not disclose or suggest an EADCM that includes both a multi-phase eye quality monitor for providing signal distortion measurements and an equalizer circuit for performing dispersion compensation. The equalization amplifier of Kurooka does not provide signal distortion measurements. Therefore, the equalization amplifier of Kurooka does not perform the same functions of the EADCM in claim 13, which includes the multi-phase eye quality monitor. Additionally, as with claim 4 above, the Examiner did not address Applicants previous arguments regarding the patentability of claim 13 over Kurooka. Applicant respectfully submits that claim 13, as well as claims 14-16, which depend from claim 13, are in condition for allowance.

Additionally, claim 13 recites that the multi-phase eye quality monitor is operable to provide signal distortion measurements of an incoming electrical signal received at the EADCM. Thus, the distortion measurement is made on a signal entering the EADCM. However, in Kurooka, the equalization amplified waveform monitor component of FIG. 18 monitors a signal transmitted from the equalization amplifier (*i.e.*, corresponding to a signal leaving the EADCM). *See* FIG. 18. Thus, the equalization amplified waveform monitor does not provide the recited signal distortion measurements. Even if the equalization amplified waveform monitor could be combined into the equalization amplifier, it would still fail to meet the features of claim 13.

Claim 17 stands rejected as unpatentable over Kurooka. Claim 17 is directed to a method that includes measuring signal distortion of an electrical signal having a plurality of channels. The signal distortion measurements are processed to produce at least one control value for one of an optical domain adaptive dispersion compensation module ("OADCM") or an electrical domain adaptive distortion compensation module ("EADCM"). The control value is selectively applied to either the OADCM or the EADCM to provide dispersion compensation to the optical signal.

Kurooka does not disclose or suggest measuring signal distortion and then selectively applying a control signal alternatively to either an OADCM or an EADCM. As discussed above with respect to claim 1, Kurooka discloses a controller that controls a first dispersion compensation provided by a variable dispersion compensator and a control circuit that controls a second dispersion compensation provided by an equalization amplifier. In addition to being two separate controllers, there is no disclosure or suggestions of selectively applying control to either one or the other. For at least the same reasons as set forth above with respect to claim 1, claim 17 is in condition for allowance. Claims 18-20, which depend from claim 17, are allowable at least because of their dependency to claim 17.

Applicant respectfully requests that all pending claims be allowed.

By responding in the foregoing remarks only to particular positions taken by the examiner, Applicant does not acquiesce with other positions that have not been explicitly addressed. In addition, Applicant's arguments for the patentability of a claim should not be understood as implying that no other reasons for the patentability of that claim exist.

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Respectfully submitted,

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